Systrand Manufacturing Corp

Michigan Manufacturing Technology Center

Applying Six Sigma to Supply Chain Management Results in Improvements

Client Profile:
Systrand Manufacturing Corporation, located in Brownstown, Michigan, is a tier-one auto supplier that turns metal, like aluminum and steel, into transmission cases and other automotive parts. Sharon Cannarsa, an entrepreneur who started out in the oil couplings business, opened Systrand in 1982. Since that time, Systrand has been repeatedly honored by business associations for entrepreneurship, and for being one of the top female and Native American owned businesses. It is this entrepreneurial spirit that continues to drive the current work ethic and dedication to quality. The Brownstown flagship facility employs 188 of Systrand's 320 worldwide employees.

Situation:
Systrand Manufacturing wanted to address manufacturing issues such as problems in the supply chain, quality, waste, workforce development, and attraction of high tech. Systrand turned to the Michigan Manufacturing Technology Center, MMTC, a NIST MEP network affiliate, for Six Sigma training because they were impressed with the professionalism and knowledge displayed by the MMTC staff.

Solution:
Six Sigma's analytical approach, often labeling a problem as 'one inch wide and a mile deep,' deals with machining errors and other deviations. It allows the analyst to break down a seemingly complex problem into its component parts, and then pinpoint the root cause of the problem. Using a system of 'belt' colors, Six Sigma differentiates the level of training. Green and Black Belts receive classroom training with Black Belts expected to complete a detailed project in order to receive certification. In all, Systrand has two Six Sigma black belts and 3 green belts on staff. The Six Sigma approach is not limited to five, however. Systrand has implemented a training system to upgrade skills for all machine operators to ensure everyone understands the processes and their role in it. After one year of employment, a machine operator is fully versed in Systrand's quality approach.
Emily Zheng, Systrand's Director of Quality, earned her Six Sigma Black Belt through MMTC training courses, finishing at the top of her class. 'Quality' is a concept that can be found everywhere in the Systrand facility. The facility, which she oversees, is bright, clean, modern and high-tech. These are not usually the adjectives that come to mind when dealing with a manufacturing plant, and their presence in the Systrand facility is reflected from the inside out, from the shop floor to the exterior landscaping. The Systrand quality motto is written in the employee break room, and the bright tags announce the presence of any defective part, so that it does not get mixed in with the good ones.
Not content with status quo, Systrand has taken Six Sigma implementation a step further. In addition to its own facilities, they have applied the methodology to the supply chain both from their suppliers, and to their customers, including the OEMs and final consumers of the Systrand products. Parts are analyzed for deviation in hardness after casting, heat-treating, and machining. While data can be hard to come by, the engineers at Systrand take every opportunity to ensure a smooth and successful

supply-chain integration. They realize that the end result is happy customers and quality products. The MMTC's work with Systrand is one step in their dedication to a quality part and a quality workforce.

Results:
* Invested $500,000 in new state-of-the-art equipment.
* Reduced scrap rates by 99 percent, from 14 percent to 1 percent.
* Implemented visual management system to quickly identify faulty parts.
* Implemented Six Sigma principles throughout the company.

Testimonial:
"Without a well defined [six sigma] strategy, finding the problem is like rolling dice."
Emily Zheng, Director of Quality